

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A system comprising:
a plurality of computing nodes interconnected to form a plurality of node clusters;
wherein cross-links are provided between said node clusters;
wherein the cross-links are selected such that the system comprises a small-world network; and
wherein the small-world network comprises a substantially higher clustering coefficient of nodes in combination with a substantially lower characteristic path length between the nodes in comparison with a corresponding randomly-connected network, the cross-links being selected such that the system has a high degree of clustering of nodes in combination with a low average path length between nodes.
2. (Previously Presented) The system of claim 1 wherein the cross-links between the node clusters are selected at random.
3. (Currently Amended) The system of claim 1 wherein the ~~the~~ node clusters are fully interconnected.
4. (Previously Presented) The system of claim 1 wherein the average path length between the nodes is less than 2.0.
5. (Previously Presented) The system of claim 4 wherein the average path length between the nodes is between 1.5 and 1.7.
6. (Currently Amended) A large scale computer system including:
a multiplicity of nodes, each node having a plurality of interconnected processors, said nodes being arranged in a network with neighboring sets of nodes of the network forming clusters of fully interconnected nodes;
wherein cross-links are provided between nodes of different clusters in the network;
wherein the cross-links are selected such that the system comprises a small-world network;

wherein the small-world network comprises a substantially higher clustering coefficient of nodes in combination with a substantially lower characteristic path length between the nodes in comparison with a corresponding randomly-connected network;

wherein the cross-links are being selected at random to provide a high degree of clustering of nodes in combination with a low average path length between nodes; and;

whereby wherein each processor of the system can communicate effectively with other processors regardless of their location in the network and without full connectivity in the network.

7. (Currently Amended) A scalable computer system comprising:

a plurality of computing nodes interconnected to form a plurality of node clusters;

wherein cross-links are provided between the node clusters;

wherein the cross-links are selected such that the system comprises a according to the small world network; and

wherein the small-world network comprises a substantially higher clustering coefficient of nodes in combination with a substantially lower characteristic path length between the nodes in comparison with a corresponding randomly-connected network principle, whereby the system is characterized by a high degree of clustering of nodes in combination with a low average path length between nodes.